

=====

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).

Reviewer: Durreshwar Anjum

Timestamp: [year=2009; month=7; day=27; hr=11; min=2; sec=21; ms=499;]

=====

Application No: 10721693 Version No: 3.0

Input Set:

Output Set:

Started: 2009-07-22 19:39:05.911
Finished: 2009-07-22 19:39:09.937
Elapsed: 0 hr(s) 0 min(s) 4 sec(s) 26 ms
Total Warnings: 2
Total Errors: 0
No. of SeqIDs Defined: 25
Actual SeqID Count: 25

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (24)
W 213	Artificial or Unknown found in <213> in SEQ ID (25)

SEQUENCE LISTING

<110> KAEMMERER, WILLIAM F.

<120> TREATMENT OF NEURODEGENERATIVE DISEASE THROUGH
INTRACRANIAL DELIVERY OF siRNA

<130> 48169.00016

<140> 10721693

<141> 2003-11-25

<150> 60/444,614

<151> 2003-02-03

<150> 60/429,387

<151> 2002-11-26

<160> 25

<170> PatentIn version 3.3

<210> 1

<211> 21

<212> DNA

<213> Homo sapiens

<400> 1

aaccaagagc ggagcaacga a

21

<210> 2

<211> 21

<212> DNA

<213> Homo sapiens

<400> 2

aattcgttgc tccgctcttg g

21

<210> 3

<211> 21

<212> DNA

<213> Homo sapiens

<400> 3

aaccaagagc ggagcaacga a

21

<210> 4

<211> 21

<212> DNA

<213> Homo sapiens

<400> 4

aattcgttgc tccgctcttg g

21

```

<210> 5
<211> 21
<212> DNA
<213> Homo sapiens

<400> 5
aaccagtacg tccacatttc c 21

<210> 6
<211> 21
<212> DNA
<213> Homo sapiens

<400> 6
aaggaaatgt ggacgtactg g 21

<210> 7
<211> 145606
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)..(145606)
<223> LOCUS AF163864;145606 bp;DNA;linear;P
      RI 24-JAN-2001
      DEFINITION Homo sapiens SNCA isoform (SNCA) gene
      ACCESSION AF163864

<300>
<308> AF163864
<309> 2001-01-24
<313> (1)..(145606)

<400> 7
aattttcctt gaaaaacata gatgtccagt tctatctctc atattttttc ttttcataga 60

gatatggcac tttaggatta atttaagctg caaacagcag aaaaatgcaa aataacagtg 120

gcttaaataa aatagaaata ttttatctct tgaaaaagtt ctgataaaga cagtcaaagt 180

ctagaagggc aactgtgttc cagaagggtc tcaaggagcc aggctacctc taaccactg 240

ctctgccatc tctaattcat gtcgtatgtc ctcagggtcc acaatggcag taagaacgct 300

cctcatcata tctgtgtttc aaatagtaga atggagagaa agagaagaaa aggaggcatt 360

aaggaagggt ccagaagctg ccatttgaca cttctgttaa catttaattg gccaaaattt 420

aatctcatat cgcataagct gtaagagatg ctggaaaact tatttgtctc cactctacat 480

ggacattatc agagtatttc tcaacagaga ggtctatgta ataatagtaa aaagtaagag 540

```

tggacacaaa cctagtcctt tacctttcag tagaagtaaa aatgctatat taatatttac	600
tctctctctc tctctctctc tctctctctc tcatttttgg ttttgacaat caaattcagc	660
taaatatgat tgaaactaaa atcaaggaaa atgcattata ctctgttggt atggtaactg	720
gaatggtgaa atgtgtggat tattttcaca ccttcaataa tatgtttcta accatatatt	780
ttttaaaaaat tgctgcaggg tttgcttaat gaccagagta taaaggcaca tttttttctc	840
agttggcaaa aacacagttt tgacaaattt gacaagtttt tgtagatctg taatttat	900
gatttaatta aattttcatc ttgttttcac aatgagttat tgaaaataaa atctaaagct	960
ttaaacagga aaattttaaa tttgaatttt ctggttgaa ctacttatac ttttcacttt	1020
caattcacta acagaataaa tacatcattc cactgaatat gagccatcca tacaagagt	1080
ccatgaccaa atgcaatgtc actaggtatt taaagtaacc tataaattat gttctgtctc	1140
attgtccaca aaatattaca acctgcatat ttggaaaaac attttgttca tgatatgtac	1200
atatatgagg catgcatatg gataaatata tataaagttg tgaaaattag gcaaatttta	1260
tattttcgtc cactcttgaa actttcattt ttcaaaaaca aaatttaaaa tgctaacttt	1320
taaaataaat gtgccatagt agcacaatat gttaatattg gggaaaactg catggaaaat	1380
atacagaaat gcttcatact ttacaattct tttgtacatc ccatattatt tcaaaagtta	1440
aaagttttaa atatgttcag tcttgaaatg tatcagaaat gtttatctaa agttttgttg	1500
gtgttaagat taatatatta gtaatattac acacagaaag acagaaggta aaagtaaagt	1560
tagtttgaat atgactgtca ttttaagtca ttaacattta actttaccaa cttcatctca	1620
agttggccca tatcactgcc caacttaaac acatggctac atgcagcagg taaagtacat	1680
ggcaggacta ttgagatata aaggagtcac tgtgtgtcag gaaatgataa agttccccag	1740
cgtctcctca cctgtgtcag gccgacttag ggaaaccaca ttctacgttc ataaagagtg	1800
atctgcgggc ttgaaaggca agtaagcaga aagaagtgtt tatccagca attcatgaaa	1860
atgttgaaaa aaaagaaaaa ctaagtcagc tttccttaga acccaagttt cggcctgcct	1920
tttaaaattt tctctatcaa agctgccacc ttttttccag atgctcaaga taaaacactc	1980
aacacagaaa tgcatgattt tgttgctgag ataccggttt gttgtttaca ctctgccctc	2040
ctatccattg caccttccag ttccgcttgc tctcagtcct cacctctgat tgctacttac	2100
acaatttatc ccatgaaaca ccatcagatt attccagcac acaccagtat ctctgggcct	2160
tccttggtgc actgcactct ctctttcca cagagcctgt ggaaagagtg gcacagtagc	2220
tggaggggca cacagggtac agagcacctt tccccacca actcttgctg tgctgtagac	2280

ctgaggtggt accatgaagg aaacatggac agttgagacc acatgcaaga gcccagacac	2340
acggctcaag ctcccagggt cagtgatagt gtatagctag ctgggaaccc tgcactggcc	2400
ctgtgttcaa catgagtggg tcacccataa agacatttca gcgtggttct gcctaccaa	2460
tcttgcaaag aaatacctct cactcagtg agaagtgate cactagccag gctgccctcc	2520
tagacctgaa ttaaccatag agtcccagaa ttattctata ggcttgagcc ccagcattct	2580
gtggggcatc tggttgaccc cacaggcagc agggctagga agtctgagag tagcatctca	2640
aaagggtgaa gaggctggcc cacaggggtc ctgttcaggc tgagagtgca gctcctgaaa	2700
agcactgcaa accctgaagt tcccagcgtg ggagggaggg cgatttgag aattgtgagg	2760
aaggcattcc aaagtgctac ggtgcccaag tgaagactta cgtcgagaag aaatagaaaa	2820
atgacagctt tcccccaagt ggtaacaaga attagctaaa ccaagcctaa ttgtatatc	2880
ttcccaattt taaccattt attaaatcac tgaagctctc ctgagcagaa taaggggtag	2940
ggaaagaatt cagaataatt cagggaaaat gcctcctcat gaaaactcta aaatttgga	3000
aacggttgggt tcctagtaat cgagatagct atattttcct tcacttacca aaatgaaact	3060
taggaagttc attctctttt actcctaata tgcaaatacc ttagtccagt gaacaaatgt	3120
gaaccgaaag agccaatctt tcaaaataca acctgagtgg ctaaattgggg ctatgtttta	3180
aatagaggca agtggccatt tgctgactaa agatcacaca tgtatactct gagttccctg	3240
aaaacctaca gctctgctca actttgggac ttccagagct cacctgatct accaatcagg	3300
cctggactgc ttcaaccaat cagggtcag ctgtatcaaa caatgggaac tgagcatttg	3360
cataaacaaa cctgactgga aacttgggtg ggaacttttg ccataataac tgaaccctct	3420
cttggttctc tggatcacac cttcatttta caccaaaagc tttgaatcac ggtttgcaa	3480
ctgttcactg gaataaagtc tctttcttcc aaattccttt tcagagaact tttgttcaca	3540
gtccctatta tccgagataa atctgtaagc aatatgtatg tgatggaaaa tgtttcttcc	3600
ttcctcccca actttcaatc cttgttcttt tctaatactc ttatagataa tgtctaagaa	3660
attggcttat ttaagttaaa agttttgact tccttactac tcatttgaaa gtacaaaata	3720
cctcagttgc acatgcctac ctactacgtc aacagtgtgc tgctgcatat taaaagagat	3780
ccaatttcaa atcacctaga aaaggctaaa tcttactttt tcttgcttta gatgacctct	3840
ctctatatat aaggctgata tcagccacaa acctccctt ccttggtgaga ggagggcagc	3900
cttcaaactg aagttcagag cattgttgta caatattcct gaggtatatt gctccccata	3960

ggattgggat	ctgtgccata	gaacctataa	atgggattta	cacaagtttc	tgttattgtc	4020
caggggaataa	atthttggacc	acaaaagtga	aatatataat	tcccaatgcc	ttttaaatgt	4080
ataaatatgg	acagcagctc	agtgcacttt	tcactggatt	aacagcatgc	tgctatatgt	4140
cgatactgcc	aaaaaagacc	ttatatattca	aagcagaata	cattagtcct	agaaaaggag	4200
aagagcagct	ctaggggatg	tccatgatcc	ctctgtgaat	ctattgtctg	cttcattgcc	4260
tgaggcagaa	caaaagagca	cgtggccaag	aatgaggctc	tggatcagcc	cagcttgggt	4320
cctcggcctc	aaactatggc	ctcagcgaca	gtttcctgat	ttgcggagta	aatactactg	4380
tgagtatcca	acacaattca	gaggattgaa	tgaggttaat	taacttaatt	aacaagtatt	4440
aattaattaa	ttaaaaacac	taggtcacag	cctggggccat	aataagctat	caataaacac	4500
ttactattgg	tgtagcaat	ctttactttt	atttaagtga	tgtaattact	ccaatgtact	4560
ttatttgagt	gatggaatta	tagatatata	tttataactt	atataagtgt	aagtagttac	4620
acttttggaa	tatacttata	caagtactta	tataggttat	attaaagtat	atatttataa	4680
catatttata	ggattaatgt	aagaatattt	tttataaaat	gatctaacat	gctaaaatat	4740
agaaattaat	tagtaaaatt	ataatttact	ttagcttgtg	tttatttgac	accaactacc	4800
tggacattta	gtccatttac	tgcagtactt	ctccagggtat	gattcttggg	ccagcaccat	4860
cagcattacc	tgggaaatga	gttagaaatg	cacattctca	ggccccacca	caggcccata	4920
taaaaaccat	ggatttagtg	tatctagaag	gacaaaaatc	aaaacactta	gcttcattca	4980
ggaaaaaaat	aattctgata	ttgatagata	cctctcttca	cttttaaaag	tttcttctta	5040
tagaaaccag	atctgattgt	attgttaaaa	ttaaacttgt	aaattttttc	acaacgaatt	5100
tcctgtatgg	tgggtctatgt	ttggggaaat	actcatcccg	gaactcaact	gtacaggggt	5160
gggcatgttt	tacatacaag	tgtatgtctc	tcttcttgtc	ttccttctcc	cttgaaccct	5220
agtcctcctc	cctgcctttt	cagaagtttc	cccctggagt	tctcagccta	ttctctttta	5280
tctttccatc	caaacgtagt	caccaatata	gtcctctttt	ctctctcaat	ctacacagca	5340
gaagcctcca	ctgctgcttt	agaatccaga	gatatttcca	atcccattat	cccaaagat	5400
gaagtctctc	ttaaaaatcg	agattctcta	ttttagtagt	ggtggctctg	tgttcatgct	5460
gttcctctctg	cctagaacag	catttcttca	tattttcaca	tatttttaca	gcacatggca	5520
cataaaaagc	acacaataaa	caccaacatt	ctgaggttaa	aatgtgaaat	gtcttttcct	5580
gcaaaaataa	tatatgcctg	gtgtttgtcc	cagttcaata	cacatttatt	gactgcctaa	5640
tactttgcag	gcattgaaca	aagcatgggg	tagaaataat	aacagtattt	tctccccaca	5700

ctgaagtagt gtgcactcta caaataggga agatatatat atcttcctta tattatatat	5760
atttatatat ataaatatat atttatatta tttatatata tataaacata tatatatata	5820
tagattactt tcacataatg tcacagggtg agcaataggga gaggacacac agtggcttgt	5880
gaatactgag gcccaacttga gagatcagaa aagggtttta ggagaagggtg atgaagggt	5940
gaatatattt taaaactgtt aaatgtgttt tcaaagggca ataaacaccc atatgttcca	6000
taaatattat aaacagcatg cttattcaag ttagttcaga ttatgttttc aaaagcaaaa	6060
tagatttaag tcacacttat tctttccttt aaataaaatg ttcttcaagt taaaagtatt	6120
atgaagtatg tctgggaacc attttcttgt tggaggccct taacatcttc acatattccc	6180
aaatcagaaa ttagcaaacc attttgacat ctccctcttc ctcaattctc tcatacaagc	6240
atccctaagt catatccatt gcatttccaa tgtttttcaa attatttttt cctttaacat	6300
ttgtattgtc agtgcttat ttttgcatct cctaatttct ttctagataa catcctaatt	6360
ttttcccca aatctagttt tcatccctc caaatatctg caagatatca cagtgtcttt	6420
taagcaaaac aaatcggatc acatTTTTTct cttatttaaa tcttttatta ttatgtcct	6480
ctaactagga tgaatatgca tcccagtttg tccaaatgta gatattccag tttatactt	6540
gctgactagc ataattgtca ggagtgtctc ctttactct cagaagtgcc tgttctgaat	6600
tcaaaattat atagttagcc ttctcattgc cttcattatt ttgttttaat tcaataatct	6660
tacattaaaa tcttcattta taatgtgagt cctgccatta agagatgcaa gattgtcttt	6720
acaccgggt ttaccctttt acaatttgag ttcatcaaaa tcatggatta tgtcttaaaa	6780
acaactagta tttaacacca tgctgccat tgaataggca tgtaatgatg tttattaaat	6840
tttaaatagc tacatttaaa attgaagggt ttgttattaa tcatattcta tgtgaaacat	6900
ccttagatta ttgaaagcat ccatatgctt ttcgacattc ttttatatat atatttttat	6960
tatacttta gttctaattg acatgtgcac aatgtgcagg tttgttacat atgtatacat	7020
gtgccatgtt ggtgtgctgc acccactaac tcgtcattta cattaggtag atctccta	7080
gctatccctg ccccatcccc ccacccaca acaggccct gcagtgtgata tcccccttc	7140
tgtgtccaag tgttctcatt gctcaatttc cacctatgag tgagaacatg tgggtgttgg	7200
tattttgtcc ttgcgatagt ttgctgagaa tgatggtttc cagcttcac catgtctcta	7260
caaaggacac gaactcatca tttgttatgg ctgcatagta ttccatggtg tatatgtgcc	7320
acattttctt aatccagtct atcattgttg aacatttggg ttggttccaa gtctttgcta	7380

ttgtgaatag tgccgcaata aacatacatg tgcattgtgc tttatagcaa catgatttat	7440
attccttttg gtatataccc agtaatggga tggctggatc aaatggcatt tctagctcta	7500
gatccctgag gaattgccac actgtcttcc acaatgggtg aactagttta cagtcccatc	7560
agcagcataa gagtgttccct atttctccac atcctctcca gcacctgttg tttcctgaat	7620
ttttaagatc accattctaa ttggtgtgag ataatatctc gttgtgggtt tgatttgcac	7680
ttctctgatg ggcagtgatg atgacccttt tttcatgtgt ctgttggctg cataaatgtc	7740
ttcttttgag aagtgtctgt tcatatcctt tgcccacttt ttgatggggt tgtttgtttt	7800
tttcttgtaa atttgtttga gttctttgta gattctggat attagccctt tgtcagatga	7860
gtagattgca aaaattttct cccattctgt aggttacctg ttcactctga tggtagtttc	7920
ttttgctgtg cagaagctct ttagtttaat tagatcctat ttgtcaattt tggctttcgt	7980
tgccattgct tttgggtgtt tagacatgaa gtccttgacc atgcctatgt cctgaatgg	8040
gttgccatag ttttctccta gggtttttat ggttttagat ctaacattga agtctttaat	8100
ccatcttgaa ttaatttttc tataagggtg aaggaaggga tccagtttca gctttctaca	8160
tatggctagc cagttttccc agcaccattt gttaaataagg gactccttc ccaatttctt	8220
gtttttgtca ggtttgtcag agatcagatc attgtagatg tgtggtatta tctgagggt	8280
ctgttctgtt ccattgggtc atctctctgt tttggtacca gtaccgtgcc attttggtta	8340
ctgtagcctt gtagtttttg tgtggatgtc ctttctgttt gttagtata cttttgacag	8400
tcaggatcct cagctgcagg tctgttgag tttgctggag gtccactcca gaatctgttt	8460
gcctgggtac cagcagagcc tgcagaacag cgaaaattgc tgaacagcaa atgttgctgt	8520
ctgatcgctc ttctggaggt ttcattctcag aggggtacct ggctgtgcga ggtgtcagtc	8580
tgccctact tgggggtgcc tcccagatag gctactcggg ggtgaaggac caacttgagg	8640
aggcagtctt tccattctca gatcccaaac tccatgctgg gagaaccact actctcttca	8700
aagctcttcg acagggacat ttaagtctgc agaggtttct gctgcctttt gtttggtat	8760
gccctgcccc cagagggtga gtctacagag gcaggcaggc ctcttgaac tgcggtgggc	8820
tccccccagt ttgggcttcc tggecacttt gtttacctac tcaagcctca gcaatggcga	8880
gcgccttcc cccagcctcg ctgccacctt acagttcaat ctcagaactgc tgtgctagca	8940
atgagcaagg ctccgtgggc atgggacct ctgagccagg cgcaggatat aatttcttg	9000
tgtgccgctt gctaagacca ttggaaaagc gcagtatttg ggtgggagtg acccgatttt	9060
tcagggtgccg tctgtcacag ctttgcttgg ctatgaaagg gaattccctc accccttgca	9120

cttcctgggt gaggaatgg ctccctgttc ttcgggtcat gctcgatgtg ctgcacccac	9180
tgtcctgcac ccactgtcca ataagccaca gtgagataaa cccagtacct cagttggaaa	9240
tgcagaaatc accagtattc tgcgttgctc acactgcaag ctgtagactg gagctgttcc	9300
tattcggcca tcttggaact gccctcactg actcaacatt atttttaaca tgtttattta	9360
cacatttata aaatgatcac tgagtactta atacataatc tagttgagca atgtcctggg	9420
gatgcttggg tatgagaaaa tgaaaaaaca aacatctaatac tacagatgct cctcaattta	9480
cagtgatgtt atttctcgat taacctatca taaattaaaa atattgcaa tcaaaaatac	9540
acttaaacac ctaacttatc aaacactata gcttaagctt ttcctaactt aaaatgctca	9600
gaacactcac attaacctac aaatttggac tcctacattt gggtaggcta atgtaagtat	9660
tctgagccct ttaaggcagg ctaggctaag ctatgtttgt gcatgacaca aagcccat	9720
tacaataaag tgttgaatat ctgaggtaat agtattatat cacatatcaa tagcccagga	9780
aaagatcaaa atttaaaatt ttaagtacaa tttctactaa atgggcatca ctttgacacc	9840
attgtaaagt caaaaaatca taagtttggg atcatctgta aatgagggca caattccac	9900
aagaagattt cagaatcaga ttcaagatat tgtgaggaca caaaagagga agttatcaac	9960
tctcaggagg tggaggggaa aaaacggctt tatgaaagaa atgacttttg ggcagtcttg	10020
gaagataagc aattgtaaat aatcagtaga actgcagtag gacataagac gagccatgga	10080
ttagcctaga caggttacat agaggtcaga gctcagagga gattattggc cagtccttgt	10140
aaacaacgat gagtgtctaa agagtgtcat gtaagagaaa gagagaaaca gtataaaaat	10200
tcataaaagt cagcctggta gcagtgtgac aagcgtactt aaagaaaaag acacttgccc	10260
taagtcaaca aagtttattt cagaataaga attatattaa tatataggca tctgaattca	10320
atagtatttt tgccaaaatc aaggcataat gtgtaaaaat gtattcattt atatccacg	10380
ttgattgaag tcatttcttc taattttcag gttttagctc tgcctatgca cgtggatgag	10440
acctaggtct caatcaaggc ctggcagttc agaagggtcaa gtcagaccat caaccatggg	10500
agctacttca ttgaccagcc tcacctagaa tgagtataac tgtgaagctt ttcaattttc	10560
tttattattt tagccatact gctatcatta ggatatttga cctctccaaa cttcacgttg	10620
aaatttgatc cccaatgttg aacatggggc ttcattggaag gtgtttgggt aatgggggca	10680
gatccctcat gaatagatta atccctcct taggcatggg gatggtaagc gaattctcac	10740
tctattagtt accaagagag ctggttggtt aaaagggtg ggcttggtac ctctctcccc	10800

tctccctctt	gcttcctttc	tcaccatgca	atctctgcac	attccagctc	cccttcacct	10860
tctgccatga	gtggaagcag	cctgagacac	tcaccagatg	cagatggcca	attttaaact	10920
tttttcgaaa	tcagaattgt	gagccaaata	aatatttttt	ctttataaat	tatcagtgtt	10980
ctttactagc	aacacaagtg	aactaagaca	catactgtgt	ttgctttctc	tttcccatcc	11040
cttaatctga	gtagaaatta	taactttgac	aaattcaatc	attaaattta	ctccaaaagg	11100
tggtaaaacta	attcaaaaact	ttctcctccc	tcacattagg	ccagaattgt	atgatatctc	11160
tggcaacatc	ttctcctttc	cactcctttt	agagtaaaca	gagatgaatt	tatgcattgg	11220
ttgcctgtac	gtgggtatgag	aacatccttg	gcctcagttt	acttcgttca	gatttcatca	11280
gttgctagta	gcttttgctg	atatgtgaat	gttctgtgct	tattaagaaa	ggttattatt	11340
gtggtaacaa	aatctacctt	taaatctagc	gttataaatt	caattatttt	actgttgatc	11400
cctttaaatt	caccatattc	catgaataga	aagtgtctag	gacttgggcc	tgtgggaatt	11460
tcttatttta	agtaaacact	gagtgtctaat	gcatgtcagc	tctcctcttg	ccattttgag	11520
attttcaaga	tcttgctagc	tttgaaagtt	gaattgggtg	aaataaaaaat	gctgcaatat	11580
taaaaaaatt	taaatctcaa	agacctcaag	acatagttca	agacttttaa	aagttcaagg	11640
gtttgtcaat	aaataataaa	gaatcatttg	ttgctttaac	aaagaacagc	aaaggatgtg	11700
taacataact	ggaacattca	ataatggctc	tatcaaattc	ctaaaataag	cttaaagaaa	11760
cataagatct	acatattaat	atztatgact	gtttctgaaa	aggatatgag	ttaaaatctt	11820
tcccaacagt	tgatattaaa	caaatgtttt	gtccaaacaa	aaaaacagaa	atttaattgt	11880
atttttaatt	aaaatgatgt	aactcatatt	atatgccaat	taaaaaataa	agggaaccac	11940
tgggggattg	gtcattttaa	aaactgatat	aggggctggg	cgaggtggct	catgcctgta	12000
atcccagcac	tttgggaggc	cgaagtgggc	ggatcacctg	aaggcaggag	tttgagacca	12060
gcctgaccaa	catggagaaa	ccctgtcttc	tactataaat	acaaaattag	ctgggcgtgg	12120
tgggtgcatgc	ctataatccc	agctactcag	gaagactaag	gcaggagaat	cgcttgaacc	12180
tgggaggcag	aggttgtgg	gagccgagat	tgcaccattg	cactccagct	tgggcaagaa	12240
gagtgaaatt	ctgcctcaaa	acaaaacaaa	aaactaatat	aggtgatgaa	aattgtggct	12300
gttgttataa	attgttactg	gtcaatgagt	ttactacaga	aacgtgtaca	cacacgtata	12360
caataaatgc	tatatattac	atgaatttga	aaaataatat	gcattatggg	acagcaactt	12420
caacttttca	cagattttta	atgcaaacat	ttgaaaaatg	aagggaagaag	agaatataga	12480
agtggagaag	gagctgggga	aaaaggaaaag	gaaggaaatg	agaaatacac	cttggataaa	12540

caaactgata agttggtgca ttttgaaaag agagttggat agagaactga accatattgg 12600
taactggaga tatgactcat tatttcatgt aatgatggta ttaagcacca actgggctaa 12660
gaatgcatta aaggaaaaaa cataggcatt ggaaacagga gagctgcgtt caaatcctgg 12720
acctatagtt aaagctccct aaggactcac tttccttatg tttcaagtaa gagggagaga 12780
ggtactcatt attcttacct taaagggttaa tgtgggggggt taaatgctaa